



<110> Heston, Warren D.W.  
O'Keefe, Denise S.

<120> DNA Encoding the Prostate-Specific Membrane Antigen-Like Gene and Uses Thereof

<130> D6230

<140> USSN 09/973,382  
<141> 2001-10-09

<150> PCT/US00/09417

<151> 2000-04-09

<160> 38

**RECEIVED**

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SEP 10 2003

<211> 1992

<212> DNA

<213> *Homo sapiens*

TECH CENTER 1600/2900

<220>

<223> cDNA sequence of PSMA-like gene

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<213> *Homo sapiens*

<220>  
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35 40 45  
Arg Ile Tyr Asn Val Ile Gly Thr Leu Arg Gly Ala Val Glu Pro  
50 55 60  
Asp Arg Tyr Val Ile Leu Gly Gly His Arg Asp Ser Trp Val Phe  
65 70 75  
Gly Gly Ile Asp Pro Gln Ser Gly Ala Ala Val Val His Glu Thr  
80 85 90  
Val Arg Ser Phe Gly Thr Leu Lys Lys Glu Gly Trp Arg Pro Arg  
95 100 105  
Arg Thr Ile Leu Phe Ala Ser Trp Asp Ala Glu Glu Phe Gly Leu  
110 115 120  
Leu Gly Ser Thr Glu Trp Ala Glu Asp Asn Ser Arg Leu Leu Gln  
125 130 135

Glu Arg Gly Val Ala Tyr Ile Asn Ala Asp Ser Ser Ile Glu Gly  
140 145 150  
Asn Tyr Thr Leu Arg Val Asp Cys Thr Pro Leu Met Tyr Ser Leu  
155 160 165  
Val Tyr Asn Leu Thr Lys Glu Leu Lys Ser Pro Asp Glu Gly Phe  
170 175 180  
Glu Gly Lys Ser Leu Tyr Glu Ser Trp Thr Lys Lys Ser Pro Ser  
185 190 195  
Pro Glu Phe Ser Gly Met Pro Arg Ile Ser Lys Leu Gly Ser Gly  
200 205 210  
Asn Asp Phe Glu Val Phe Phe Gln Arg Leu Gly Ile Ala Ser Gly  
215 220 225  
Arg Ala Arg Tyr Thr Lys Asn Trp Glu Thr Asn Lys Phe Ser Gly  
230 235 240  
Tyr Pro Leu Tyr His Ser Val Tyr Glu Thr Tyr Glu Leu Val Glu  
245 250 255  
Lys Phe Tyr Asp Pro Met Phe Lys Tyr His Leu Thr Val Ala Gln  
260 265 270  
Val Arg Gly Gly Met Val Phe Glu Leu Ala Asn Ser Ile Val Leu  
275 280 285  
Pro Phe Asp Cys Arg Asp Tyr Ala Val Val Leu Arg Lys Tyr Ala  
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335 340 345  
Asp Lys Ser Asn Pro Ile Leu Leu Arg Met Met Asn Asp Gln Leu  
350 355 360  
Met Phe Leu Glu Arg Ala Phe Ile Asp Pro Leu Gly Leu Pro Asp  
365 370 375  
Arg Pro Phe Tyr Arg His Val Ile Tyr Ala Pro Ser Ser His Asn  
380 385 390

Lys Tyr Ala Gly Glu Ser Phe Pro Gly Ile Tyr Asp Ala Leu Phe  
395 400 405  
Asp Ile Glu Ser Lys Val Asp Pro Ser Lys Ala Trp Gly Asp Val  
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<213> *Homo sapiens*

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<220>  
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Ser	Asn	Glu	Ala	Thr	Asn	Ile	Thr	Pro	Lys	His	Asn	Met	Lys	Ala
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Phe	Leu	Asp	Glu	Leu	Lys	Ala	Glu	Asn	Ile	Lys	Lys	Phe	Leu	Tyr
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Asn	Phe	Thr	Gln	Ile	Pro	His	Leu	Ala	Gly	Thr	Glu	Gln	Asn	Phe
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Gln	Leu	Ala	Lys	Gln	Ile	Gln	Ser	Gln	Trp	Lys	Glu	Phe	Gly	Leu
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Asp	Ser	Val	Glu	Leu	Ala	His	Tyr	Asp	Val	Leu	Leu	Ser	Tyr	Pro
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Asn	Lys	Thr	His	Pro	Asn	Tyr	Ile	Ser	Ile	Ile	Asn	Glu	Asp	Gly
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Asn	Glu	Ile	Phe	Asn	Thr	Ser	Leu	Phe	Glu	Pro	Pro	Pro	Pro	Gly
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Tyr	Glu	Asn	Val	Ser	Asp	Ile	Val	Pro	Pro	Phe	Ser	Ala	Phe	Ser
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Pro	Gln	Gly	Met	Pro	Glu	Gly	Asp	Leu	Val	Tyr	Val	Asn	Tyr	Ala
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Arg	Thr	Glu	Asp	Phe	Phe	Lys	Leu	Glu	Arg	Asp	Met	Lys	Ile	Asn
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Cys	Ser	Gly	Lys	Ile	Val	Ile	Ala	Arg	Tyr	Gly	Lys	Val	Phe	Arg
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Gly	Asn	Lys	Val	Lys	Asn	Ala	Gln	Leu	Ala	Gly	Ala	Lys	Gly	Val
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Ile	Leu	Tyr	Ser	Asp	Pro	Ala	Asp	Tyr	Phe	Ala	Pro	Gly	Val	Lys
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Ser	Tyr	Pro	Asp	Gly	Trp	Asn	Leu	Pro	Gly	Gly	Gly	Val	Gln	Arg
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Gly	Tyr	Pro	Ala	Asn	Glu	Tyr	Ala	Tyr	Arg	Arg	Gly	Ile	Ala	Glu
									275		280			285
Ala	Val	Gly	Leu	Pro	Ser	Ile	Pro	Val	His	Pro	Ile	Gly	Tyr	Tyr
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Asp	Ala	Gln	Lys	Leu	Leu	Glu	Lys	Met	Gly	Gly	Ser	Ala	Pro	Pro
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320 325 330  
Pro Gly Phe Thr Gly Asn Phe Ser Thr Gln Lys Val Lys Met His  
335 340 345  
Ile His Ser Thr Asn Glu Val Thr Arg Ile Tyr Asn Val Ile Gly  
350 355 360  
Thr Leu Arg Gly Ala Val Glu Pro Asp Arg Tyr Val Ile Leu Gly  
365 370 375  
Gly His Arg Asp Ser Trp Val Phe Gly Gly Ile Asp Pro Gln Ser  
380 385 390  
Gly Ala Ala Val Val His Glu Ile Val Arg Ser Phe Gly Thr Leu  
395 400 405  
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410 415 420  
Trp Asp Ala Glu Glu Phe Gly Leu Leu Gly Ser Thr Glu Trp Ala  
425 430 435  
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440 445 450  
Asn Ala Asp Ser Ser Ile Glu Gly Asn Tyr Thr Leu Arg Val Asp  
455 460 465  
Cys Thr Pro Leu Met Tyr Ser Leu Val His Asn Leu Thr Lys Glu  
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Leu Lys Ser Pro Asp Glu Gly Phe Glu Gly Lys Ser Leu Tyr Glu  
485 490 495  
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545 550 555  
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Glu	Leu	Ala	Asn	Ser	Ile	Val	Leu	Pro	Phe	Asp	Cys	Arg	Asp	Tyr
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Ala	Val	Val	Leu	Arg	Lys	Tyr	Ala	Asp	Lys	Ile	Tyr	Ser	Ile	Ser
605									610					615
Met	Lys	His	Pro	Gln	Glu	Met	Lys	Thr	Tyr	Ser	Val	Ser	Phe	Asp
620									625					630
Ser	Leu	Phe	Ser	Ala	Val	Lys	Asn	Phe	Thr	Glu	Ile	Ala	Ser	Lys
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650									655					660
Leu	Arg	Met	Met	Asn	Asp	Gln	Leu	Met	Phe	Leu	Glu	Arg	Ala	Phe
665									670					675
Ile	Asp	Pro	Leu	Gly	Leu	Pro	Asp	Arg	Pro	Phe	Tyr	Arg	His	Val
680									685					690
Ile	Tyr	Ala	Pro	Ser	Ser	His	Asn	Lys	Tyr	Ala	Gly	Glu	Ser	Phe
695									700					705
Pro	Gly	Ile	Tyr	Asp	Ala	Leu	Phe	Asp	Ile	Glu	Ser	Lys	Val	Asp
710									715					720
Pro	Ser	Lys	Ala	Trp	Gly	Glu	Val	Lys	Arg	Gln	Ile	Tyr	Val	Ala
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 <223> sense primer designed for only amplifying  
 the first intron of the PSMA-like gene on  
 chromosome 11q

<400> 5  
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<210> 6  
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regions of the PSMA-like gene (exon 3)

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intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 3)

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clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 4)

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intronic sequences of the PSMA genomic clone used to amplify the corresponding regions of the PSMA-like gene (exon 4)

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regions of the PSMA-like gene (exon 7)

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<210> 17  
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intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exons 8-9)

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intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exons 8-9)

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<210> 19

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<210> 22  
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intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 11)

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intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 12)

<400> 23  
tgtcgtaat atgggtcagc tc 22

<210> 24  
<211> 22  
<212> DNA  
<213> Artificial sequence

<220>  
<221> primer\_bind  
<223> antisense oligonucleotide primer based upon  
intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 12)

<400> 24  
ttaactagac tgctgctcct ag 22

<210> 25  
<211> 22  
<212> DNA  
<213> Artificial sequence

<220>  
<221> primer\_bind  
<223> sense oligonucleotide primer based upon  
intronic sequences of the PSMA genomic

clone used to amplify the corresponding regions of the PSMA-like gene (exon 13)

<400> 25  
tggtaggaat ttagcagtgg tc 22

<210> 26  
<211> 22  
<212> DNA  
<213> Artificial sequence

<220>  
<221> primer\_bind  
<223> antisense oligonucleotide primer based upon intronic sequences of the PSMA genomic clone used to amplify the corresponding regions of the PSMA-like gene (exon 13)

<400> 26  
gatgctacta atgggctacc tc 22

<210> 27  
<211> 22  
<212> DNA  
<213> Artificial sequence

<220>  
<221> primer\_bind  
<223> sense oligonucleotide primer based upon intronic sequences of the PSMA genomic clone used to amplify the corresponding regions of the PSMA-like gene (exon 14)

<400> 27  
cttctggta atggacatct ag 22

<210> 28  
<211> 22  
<212> DNA  
<213> Artificial sequence

<220>  
<221> primer\_bind  
<223> antisense oligonucleotide primer based upon intronic sequences of the PSMA genomic clone used to amplify the corresponding regions of the PSMA-like gene (exon 14)

<400> 28  
caatcccaca ctgaattcag tg 22

<210> 29  
<211> 22  
<212> DNA  
<213> Artificial sequence

<220>  
<221> primer\_bind  
<223> sense oligonucleotide primer based upon  
intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 15)

<400> 29  
agaatgggt ttagttaat gg 22

<210> 30  
<211> 21  
<212> DNA  
<213> Artificial sequence

<220>  
<221> primer\_bind  
<223> antisense oligonucleotide primer based upon  
intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 15)

<400> 30  
tgagtcactt tttggagtca g 21

<210> 31  
<211> 22  
<212> DNA  
<213> Artificial sequence

<220>  
<221> primer\_bind  
<223> sense oligonucleotide primer based upon  
intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exons 16-17)

<400> 31  
ttgtaagcta tccctataag ag 22

<210> 32  
<211> 22

<212> DNA  
<213> Artificial sequence

<220>  
<221> primer\_bind  
<223> antisense oligonucleotide primer based upon intronic sequences of the PSMA genomic clone used to amplify the corresponding regions of the PSMA-like gene (exons 16-17)

<400> 32  
agttcagcaa cagtcatgtt ag 22

<210> 33  
<211> 22  
<212> DNA  
<213> Artificial sequence

<220>  
<221> primer\_bind  
<223> sense oligonucleotide primer based upon intronic sequences of the PSMA genomic clone used to amplify the corresponding regions of the PSMA-like gene (exon 18)

<400> 33  
gggtggtcct gaaaccaatc cc 22

<210> 34  
<211> 21  
<212> DNA  
<213> Artificial sequence

<220>  
<221> primer\_bind  
<223> antisense oligonucleotide primer based upon intronic sequences of the PSMA genomic clone used to amplify the corresponding regions of the PSMA-like gene (exon 18)

<400> 34  
gtgatattac agaaaaggagt c 21

<210> 35  
<211> 22  
<212> DNA  
<213> Artificial sequence

<220>

<221> primer\_bind  
<223> sense oligonucleotide primer based upon  
intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 19)

<400> 35  
atccaggaat tgcagagtgc tc 22

<210> 36  
<211> 22  
<212> DNA  
<213> Artificial sequence

<220>  
<221> primer\_bind  
<223> antisense oligonucleotide primer based upon  
intronic sequences of the PSMA genomic  
clone used to amplify the corresponding  
regions of the PSMA-like gene (exon 19)

<400> 36  
ttcagttta atccataggg ag 22

<210> 37  
<211> 24  
<212> DNA  
<213> Artificial sequence

<220>  
<221> primer\_bind  
<223> sense primer (exon 10) used for performing  
PCR on cDNAs from various tissues

<400> 37  
acagatatgt cattctggga ggtc 24

<210> 38  
<211> 24  
<212> DNA  
<213> Artificial sequence

<220>  
<221> primer\_bind  
<223> antisense primer (exon 16) used for  
performing PCR on cDNAs from various  
tissues

<400> 38  
actgtgatac agtggatagc cgct 24